

DOCUMENT RESUME

ED 363 449

PS 021 926

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TITLE Teaching Low-Income Mothers To Teach Their Children.
PUB DATE Mar 93
NOTE 9p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (70th, New Orleans, LA, March 25-28, 1993).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Infants; Mexican Americans; *Mothers; *Parent Child Relationship; *Parent Education; *Parents as Teachers; Preschool Education; *Program Effectiveness; Socioeconomic Influences
IDENTIFIERS *Avance San Antonio Inc; Texas (San Antonio)

ABSTRACT

This study examined the effectiveness of the Avance Parent-Child Education Program, a 9-month center-based program, with an in-home component, designed to provide low-income, Mexican-American mothers of infants with parenting education and family support services. A total of 524 mother-infant diads took part in the Avance program or served in a control group. Participants were tested before the program began, at the end of the program, and 1 year after the program ended with three measures: (1) the Home Observation for Measurement of the Environment; (2) the Early Learning Questionnaire; and (3) videotaped mother-child interactions. It was found that the Avance program mothers considered themselves more effective teachers of their children than non-program mothers. The program mothers provided a more educationally stimulating home environment and more cognitive stimulation both at the end of the program and 1 year later compared to non-program mothers. (MDH)

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Society for Research on Child Development Biennial Meeting,
New Orleans, March, 1993

Teaching Low-Income Mothers to Teach Their Children

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Abstract

The effectiveness of the Avance Parent-Child Education Program in teaching low-income, Mexican-American mothers of infants to teach their own children was examined. 524 mother-child dyads participated in two program waves in program or control groups. Significant program effects were found on HOME scores, on a questionnaire on view of self as teacher, and on videotaped mother-child interactions. Program participants became highly skilled teachers of their young children and the results were still present in a one-year follow-up.

Children of low-income families have been found to be at high risk for school failure and many early education programs have been developed to provide parent education and resources to reduce this risk (e.g., Andrews, Blumenthal, Ferguson, Johnson, Kahn, Lasater, Malone & Wallace, 1962; Lazar, Darlington, Murray, Royce & Snipper, 1982). Although there has been evidence of effectiveness (Lazar, et al., 1982; Johnson & Walker, 1991), there is a question of whether programs designed and implemented in the 1960s and 1970s will meet the needs of young children and their parents in the 1990s. The research presented here is part of a larger evaluation of Avance, a parent education and family support program for low-income Mexican American mothers of infants. Avance was first developed in 1973, but in providing a range of supportive services to families in addition to parent education, and placing emphasis on helping mother improve their earning abilities, it is very much a program of the 1990s. The present research examined one aspect of the program: the question of whether it is possible to teach low-income mothers of infants to become good teachers of these children. It is assumed that positive maternal teaching will be associated with better preparation for school and subsequently, greater school success.

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A search of the recent literature yielded a few reports of attempts to teach specific teaching skills to parents. Causby, Nixon and Bright (1991) taught parenting skills to a small sample of adolescent mothers and found the trained group provided more positive interactions with their children than did the control mothers. Weistuch, Lewis, and Sullivan (1991) successfully used a language intervention program with mothers of preschoolers to enhance language competence of their children. Hills and Knowles (1987) compared "personal meaning" or "traditional" approaches to training parents. The "personal meaning" method resulted in more learning and retention, but neither method affected attitudes or self-concepts. Resnick (1985) examined the effects of two prevention programs for high risk mothers of young children. One program provided a life-skills, esteem-building format and the other life-skills and parent training. Neither program improved parenting skills. The absence of positive results was said to be due to the short-term and low-intensity nature of the programs.

The Avance Parent-Child Education Program

The Avance Parent-Child Education Program is a 9-month comprehensive center-based program with an in-home component. Avance offers parenting education and family support to parents and their birth to 2-year-old children. From September through May, the mothers and children are transported to weekly 3-hour classes held at the facility closest to them. At the Avance Center mothers make educational toys, receive lessons in child growth and development, learn to see themselves as role models for and teachers of their children and learn about social services located in the community. While mothers are in classes, children are in an educational day care setting. The toy-making class component provides opportunities for the development of self-confidence, socializing, and exposure to the notion of a child learning through play. In addition, parents are visited once a month at home. The parent-child dyad is observed in a play situation with an Avance toy during which time the home visitor emphasizes to the parent the importance of her role as a teacher and effective caretaker. The visit is also used to provide the mother with individual assistance and support. Periodically, home visits are videotaped by program staff. These videotapes are then shown to the participant and later to the entire class so that they can learn from each other.

Most mothers choose to continue with the Avance program for a second year. During this time they attend courses for English as a Second Language, work on the high school General Equivalency Exam, take junior college courses, or otherwise develop their vocational skills.

Although the Avance program has an extensive list of goals, the prevention of school failure by fostering the early cognitive and motivational development of the child is one of the most salient. It is expected that this will be accomplished by assisting the mother to become a good teacher and that, in turn, means that she prepare a warm, accepting environment for learning, place emphasis on language development and clear communication between parent and child, structure the specific teaching environment, engage in direct instruction when appropriate, and avoid intruding on the child's exploratory efforts. In addition, it is expected that the mother would regard herself as a good teacher, would provide stimulating play materials, and, in general, make the home an educationally enriched environment.

In this research, we examined whether the program was successful in teaching mothers to improve their teaching abilities with their own young children.

Method

Subjects

The participants were 524 women who took part in the Avance program or were in the control group. At entry into the project all had infants from 1 to 24 months of age. The program was tested in two sites in San Antonio, Texas, West Side and South Side, with two cohorts of subjects each. Random assignment to groups was used at South Side, but owing to the long presence of Avance in the West Side neighborhood and density of population in public housing, random assignment was deemed unworkable and a matched group design was used. Participants were tested before the program began (T1), again at the end of the first year (T2), and at one year follow-up (T3). There was no evidence of bias in original assignment to groups or of bias resulting from differential attrition. Background characteristics of participants appear in Table 1.

Procedure

For this analysis, the following measures of teaching effectiveness were used.

- 1) The Home Observation for Measurement of the Environment (HOME) (Caldwell & Bradley, 1984) is an observation/interview carried out with the mother in the home when the child is present. The Infant-Toddler version was used at T1 and for younger children at T2. At this time the Total score and Factor IV, Provision of Play Materials were used. At T3, the Early Childhood version was used with older children and the Infant-Toddler version used with younger children and standardized Total scores were analyzed. Home Total scores have been found to be the best

predictors among the several HOME scores of later school performance (Bradley & Caldwell, 1984).

2) The Early Learning Questionnaire (ELQ) (Kahn, Lopez & Johnson, 1976) was used to assess the mother's attitudes about being teachers of their children. The ELQ is comprised of statements such as "Parents should read to their children before their are three years old," and "Parents have a lot of influence over how children learn."

3) Videotaped mother-child interactions (MCI) during free play were used to examine interaction in a standard setting. Mothers interacted with their children in a book task, free play and clean up. A free play session of 5 minutes was used for the present analysis to simulate what mothers might do spontaneously with their children in their own home. The toys available were commonly found in the homes. Coding was done on 41 variables (Clark, Smith & Leifer, undated). Nine maternal variables related to affect, communication and cognitive stimulation were included in the present analysis. Coding was done away from Avance research and program offices by especially trained coders who were blind to group status of the participants. Coders were fluent in Spanish and English. Training continued until high levels of reliability were obtained. The maternal variables used in this analysis and the arrangement for combining variables into composite scores are shown in Figure 1.

For HOME and ELQ analyses sites were analyzed separately. For the HOME and ELQ analyses ANCOVAs were used with T1 scores controlled.

A subsample of program participants and matched control participants were selected randomly for the MCI procedure. Codable videotapes were available for 91 program and 83 control mother-child dyads. Sites were combined for these analyses. Groups did not differ on demographic characteristics.

All questionnaires were available to participants in Spanish or English and interviews were conducted by fluently bilingual interviewers. Data were collected in the research offices or in the mothers' homes.

Results

Highly significant differences were obtained at both sites favoring the program participants on HOME Total scores at both T2 and T3 and on Factor IV at T2. The results for each site and group are shown in Table 2.

The ELQ results were significant at both sites at T2, but not at T3 (See Table 2).

MCI results were significant for Amount of Teaching Efforts, Quality of Mother's Communicative Vocalizations, Encouragement of Child's Verbalizations, Amount of Mother's

Vocalizations, Social Initiation, Contingent Praise, and Mother's Positive Affect. These results were obtained at T2 and T3. Results appear in Table 3. On the MCI Composite scores, there were significant differences on Affect, Communication and Cognitive Stimulation at both T2 and T3 (See table 4).

Discussion

The program goals having to do with becoming effective teachers of their children were clearly attained as determined through three different measures of maternal teaching. Women in the program not only believed that they could be teachers of their children, but were able to put these beliefs into action with highly skilled interactions with their children.

At the attitudinal/belief level, the program mothers more often said they regarded mothers as teachers of their children. This is what might be expected from participation in a program that makes this point in many ways weekly over a period of nine months.

The program mothers also were found to provide a more educationally stimulating environment for their children as assessed by the HOME procedure. This was true as a general stimulation effect (HOME Total score) and for the Appropriate Play Materials factor score. The latter was expected to occur owing to the emphasis that Avance places on use of toys as learning tools.

The mother-child interaction findings supported the Avance expectations that mothers would provide more cognitive stimulation in the sense of doing more teaching and structuring and mediating the environment for learning. In addition, that they would provide an interpersonal affective context that is conducive to learning. The program mothers provided more positive affect both at the end of the program and a year later. Program mothers also communicated more effectively. They verbalized more, their quality of communication was higher, they used more contingent praise, and they were more encouraging of their child's verbalizations.

The results obtained are similar to those for those obtained at the end of the program for the Houston PCDC (Andrews et al, 1982) and it might be noted that the Houston program had positive effects on both school achievement (Johnson & Walker, 1991) and behavior problems (Johnson & Walker, 1987) that were present 5-8 years after the program. The present findings may bode well for similar long-term outcomes. Furthermore, in accord with the practice followed in most contemporary parent education programs, the Avance program requires less participant time. Avance requires

approximately 150 hours in the first year compared with a total of 550 hours for the Houston PCDC.

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Acknowledgments

Support for this research was received from the Carnegie Corporation of New York.

Table 1
Demographic Characteristics of Mothers

	Sample		
	Westside	Southside	MCI
n	172	186	176
Age	24.2	25.2	24.9
Number of Children	2.7	2.5	2.5
First Generation (%)	17.9	25.5	24.3
Years of Education	9.2	9.8	9.7
High School Drop Out (%)	79.4	63.4	69.8
Coupled (%)	45.4	74.2	69.3
Annual Income	\$4990	\$8302	\$7680
MCI: Sample of research subjects who participated in the Mother-Child Interaction sessions.			

Table 2
ANCOVAS with HOME and the Early Learning Questionnaire

	Westside			Southside		
	Exp	Con	F	Exp	Con	F
Time 2						
HOME						
Provision of Appropriate Play Materials (IV)	7.1	6.4	7.4**	7.6	6.8	9.8**
S.D.	1.4	1.7		1.3	1.7	
Total Score	35.0	31.5	20.2***	36.9	33.8	15.6**
S.D.	4.5	5.8		4.8	5.1	
Early Learning Questionnaire	27.3	26.5	4.7*	28.1	27.3	4.3*
S.D.	3.1	2.5		2.6	2.8	
Time 3						
HOME						
Total Score	.34	-.15	9.8**	.37	-.19	11.9**
S.D.	.7	1.1		.9	1.0	
Early Learning Questionnaire	27.0	26.3	2.4	27.7	27.7	0.0
S.D.	3.0	2.7		2.9	2.9	

Note: The means for T2 and T3 adjusted for T1 are presented along with the corresponding standard deviations. The version of HOME used depended on the child age. Standard scores were calculated in order to combine the data for analysis.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 1
Mother-Child Interaction Variables and Composite Variables

Mother Behavior Variables	Composite Variables
Positive Affect	Affect
Negative Affect	
Apathy	
Social Initiation	Communication
Quality of Communication	
Vocalizations	
Amount of Vocalization	
Contingent Praise	
Encourage Child	
Verbalization	
Structures/Mediates	Cognitive Stimulation
Environment	
Intrusiveness	
Amount of Teaching	